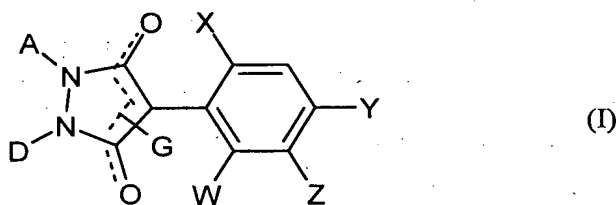


Patent claims

1. Compounds of the formula (I)



in which

5 X represents halogen, alkyl, alkoxy, alkenyloxy, alkylthio, alkylsulphinyl, alkylsulphonyl, haloalkyl, haloalkoxy, haloalkenyloxy, nitro, cyano,

Z represents in each case optionally substituted aryl or hetaryl,

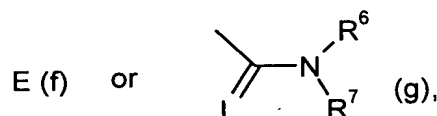
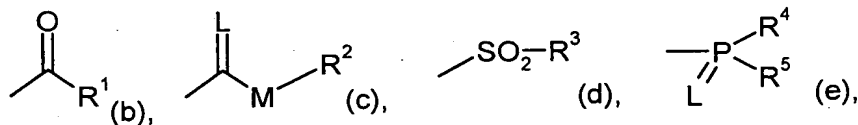
W and Y independently of one another represent hydrogen, halogen, alkyl, alkoxy, alkenyloxy, haloalkyl, haloalkoxy, haloalkenyloxy, nitro or cyano,

10 A represents in each case optionally halogen-substituted alkyl, alkenyl, alkoxyalkyl, saturated, optionally substituted cycloalkyl,

D represents hydrogen or represents in each case optionally halogen-substituted alkyl, alkenyl or alkoxyalkyl,

15 A and D together with the atoms to which they are attached represent a saturated or unsaturated 6- or 7-membered ring which optionally contains at least one further heteroatom and which is unsubstituted or substituted in the A,D moiety or represent an optionally substituted 5-membered ring,

G represents hydrogen (a) or represents one of the groups



in which

E represents a metal ion or an ammonium,

L represents oxygen or sulphur,

M represents oxygen or sulphur,

5 R¹ represents in each case optionally halogen-substituted alkyl, alkenyl, alkoxyalkyl, alkylthioalkyl, polyalkoxyalkyl or optionally halogen-, alkyl- or alkoxy-substituted cycloalkyl which may be interrupted by at least one heteroatom, represents in each case optionally substituted phenyl, phenylalkyl, hetaryl, phenoxyalkyl
10 or hetaryloxyalkyl,

R² represents in each case optionally halogen-substituted alkyl, alkenyl or represents in each case optionally substituted cycloalkyl, phenyl or benzyl,

15 R³, R⁴ and R⁵ independently of one another represent in each case optionally halogen-substituted alkyl, alkoxy, alkylamino, dialkylamino, alkylthio, alkenylthio, cycloalkylthio or represent in each case optionally substituted phenyl, benzyl, phenoxy or phenylthio and

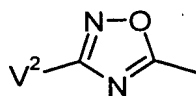
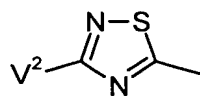
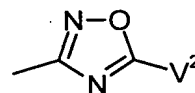
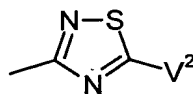
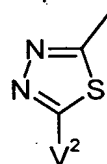
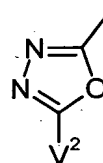
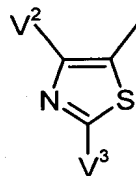
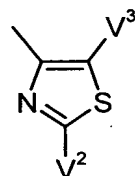
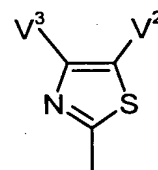
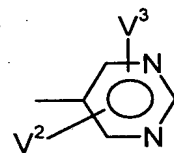
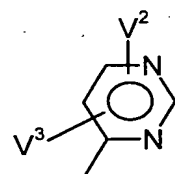
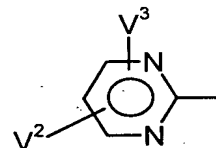
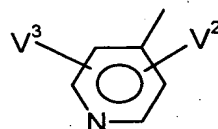
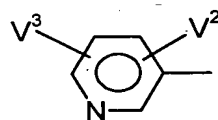
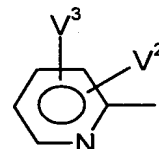
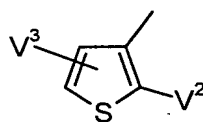
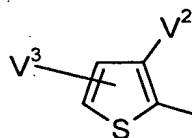
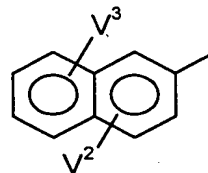
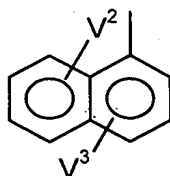
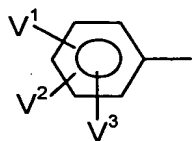
20 R⁶ and R⁷ independently of one another represent hydrogen, in each case optionally halogen-substituted alkyl, cycloalkyl, alkenyl, alkoxy, alkoxyalkyl, represent optionally substituted phenyl, represent optionally substituted benzyl or together with the N atom to which they are attached represent a ring which is optionally interrupted by oxygen or sulphur.

25 2. Compounds of the formula (I) according to Claim 1 in which

X represents halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₃-C₆-alkenyl-oxy, C₁-C₆-alkylthio, C₁-C₆-alkylsulphinyl, C₁-C₆-alkylsulphonyl, C₁-C₆-haloalkoxy, C₃-C₆-haloalkenyloxy, nitro or cyano,

30 W and Y independently of one another represent hydrogen, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, nitro or cyano,

Z represents one of the radicals



V¹ represents halogen, C₁-C₁₂-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylsulphanyl, C₁-C₆-alkylsulphonyl, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, nitro, cyano or represents phenyl, phenoxy, phenoxy-C₁-C₄-alkyl, phenyl-C₁-C₄-alkoxy,

phenylthio-C₁-C₄-alkyl or phenyl-C₁-C₄-alkylthio, each of which is optionally mono- or polysubstituted by halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, nitro or cyano,

5 V² and V³ independently of one another represent hydrogen, halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₄-haloalkyl or C₁-C₄-haloalkoxy,

A represents in each case optionally halogen-substituted C₁-C₈-alkyl, C₃-C₈-alkenyl or optionally C₁-C₄-alkyl-, halogen- or C₁-C₄-alkoxy-substituted C₃-C₆-cycloalkyl,

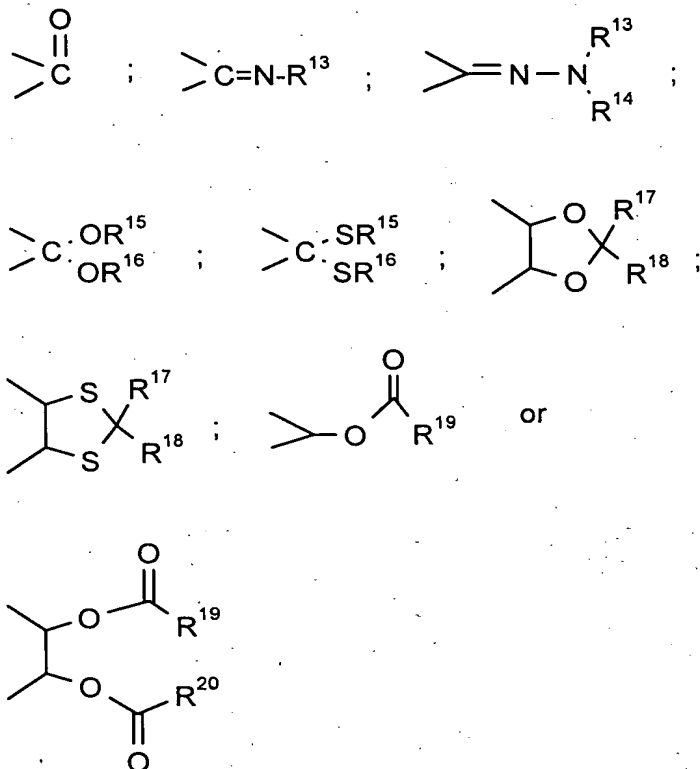
10 D represents hydrogen, represents in each case halogen-substituted C₁-C₈-alkyl or C₃-C₈-alkenyl,

A and D together represent in each case optionally substituted C₄-C₆-alkanediyl or C₄-C₆-alkenediyl in which optionally one methylene group may be replaced by oxygen or sulphur,

possible substituents being in each case:

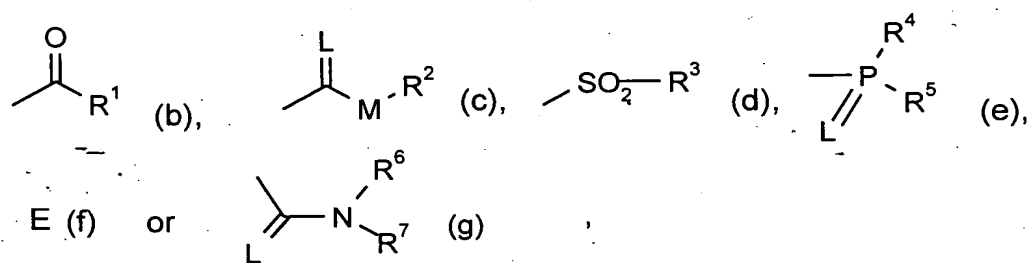
15 halogen, hydroxyl, mercapto or in each case optionally halogen-substituted C₁-C₁₀-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₃-C₇-cycloalkyl, phenyl, benzyloxy or a further C₁-C₆-alkanediyl grouping,

or which optionally contains one of the following groups



or represents C₃-alkanediyl which is optionally mono- to trisubstituted by halogen, C₁-C₆-alkyl, C₁-C₄-haloalkyl or C₁-C₆-alkoxy,

G represents hydrogen (a) or represents one of the groups



in which

E represents a metal ion or an ammonium ion,

L represents oxygen or sulphur and

M represents oxygen or sulphur,

10

R¹ represents in each case optionally halogen-substituted C₁-C₂₀-alkyl, C₂-C₂₀-alkenyl, C₁-C₈-alkoxy-C₁-C₈-alkyl, C₁-C₈-alkylthio-C₁-C₈-alkyl,

poly-C₁-C₈-alkoxy-C₁-C₈-alkyl or optionally halogen, C₁-C₆-alkyl or C₁-C₆-alkoxy-substituted C₃-C₈-cycloalkyl in which optionally one or more not directly adjacent ring members are replaced by oxygen and/or sulphur,

represents optionally halogen-, cyano-, nitro-, C₁-C₆-alkyl-, C₁-C₆-alkoxy-, C₁-C₆-haloalkyl-, C₁-C₆-haloalkoxy-, C₁-C₆-alkylthio- or C₁-C₆-alkylsulphonyl-substituted phenyl,

represents optionally halogen-, nitro-, cyano-, C₁-C₆-alkyl-, C₁-C₆-alkoxy-, C₁-C₆-haloalkyl- or C₁-C₆-haloalkoxy-substituted phenyl-C₁-C₆-alkyl,

represents optionally halogen- or C₁-C₆-alkyl-substituted 5- or 6-membered hetaryl,

represents optionally halogen- or C₁-C₆-alkyl-substituted phenoxy-C₁-C₆-alkyl or

represents in each case optionally halogen-, amino- or C₁-C₆-alkyl-substituted 5- or 6-membered hetaryloxy-C₁-C₆-alkyl,

R² represents in each case optionally halogen-substituted C₁-C₂₀-alkyl, C₂-C₂₀-alkenyl, C₁-C₈-alkoxy-C₂-C₈-alkyl, poly-C₁-C₈-alkoxy-C₂-C₈-alkyl,

represents optionally halogen-, C₁-C₆-alkyl- or C₁-C₆-alkoxy-substituted C₃-C₈-cycloalkyl or

represents in each case optionally halogen-, cyano-, nitro-, C₁-C₆-alkyl-, C₁-C₆-alkoxy-, C₁-C₆-haloalkyl- or C₁-C₆-haloalkoxy-substituted phenyl or benzyl,

R³ represents optionally halogen-substituted C₁-C₈-alkyl or represents in each case optionally halogen-, C₁-C₆-alkyl-, C₁-C₆-alkoxy-, C₁-C₄-haloalkyl-, C₁-C₄-haloalkoxy-, cyano- or nitro-substituted phenyl or benzyl,

R⁴ and R⁵ independently of one another represent in each case optionally halogen-substituted C₁-C₈-alkyl, C₁-C₈-alkoxy, C₁-C₈-alkylamino, di-(C₁-C₈-alkyl)-amino, C₁-C₈-alkylthio, C₂-C₈-alkenylthio, C₃-C₇-cycloalkylthio or represent in each case optionally halogen-, nitro-, cyano-, C₁-C₄-alkoxy-, C₁-C₄-haloalkoxy-, C₁-C₄-alkylthio-, C₁-C₄-haloalkylthio-, C₁-C₄-alkyl- or C₁-C₄-haloalkyl-substituted phenyl, phenoxy or phenylthio,

- 5 R^6 and R^7 independently of one another represent hydrogen, represent in each case optionally halogen-substituted C_1 - C_8 -alkyl, C_3 - C_8 -cycloalkyl, C_1 - C_8 -alkoxy, C_3 - C_8 -alkenyl, C_1 - C_8 -alkoxy- C_1 - C_8 -alkyl, represent optionally halogen-, C_1 - C_8 -haloalkyl-, C_1 - C_8 -alkyl- or C_1 - C_8 -alkoxy-substituted phenyl, represent optionally halogen-, C_1 - C_8 -alkyl-, C_1 - C_8 -haloalkyl- or C_1 - C_8 -alkoxy-substituted benzyl or together represent an optionally C_1 - C_4 -alkyl-substituted C_3 - C_6 -alkylene radical in which optionally one methylene group is replaced by oxygen or sulphur,
- 10 R^{13} represents hydrogen, represents in each case optionally halogen-substituted C_1 - C_8 -alkyl or C_1 - C_8 -alkoxy, represents optionally halogen-, C_1 - C_4 -alkyl- or C_1 - C_4 -alkoxy-substituted C_3 - C_8 -cycloalkyl in which optionally one methylene group is replaced by oxygen or sulphur, or represents in each case optionally halogen-, C_1 - C_6 -alkyl-, C_1 - C_6 -alkoxy-, C_1 - C_4 -haloalkyl-, C_1 - C_4 -haloalkoxy-, nitro- or cyano-substituted phenyl, phenyl- C_1 - C_4 -alkyl or phenyl- C_1 - C_4 -alkoxy,
- 15 R^{14} represents hydrogen or C_1 - C_8 -alkyl or
- R^{13} and R^{14} together represent C_4 - C_6 -alkanediyl,
- R^{15} and R^{16} are identical or different and represent C_1 - C_6 -alkyl or
- 20 R^{15} and R^{16} together represent a C_2 - C_4 -alkanediyl radical which is optionally substituted by C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl or by optionally halogen-, C_1 - C_6 -alkyl-, C_1 - C_4 -haloalkyl-, C_1 - C_6 -alkoxy-, C_1 - C_4 -haloalkoxy-, nitro- or cyano-substituted phenyl,
- R^{17} and R^{18} independently of one another represent hydrogen, represent optionally halogen-substituted C_1 - C_8 -alkyl or represent optionally halogen-, C_1 - C_6 -alkyl-, C_1 - C_6 -alkoxy-, C_1 - C_4 -haloalkyl-, C_1 - C_4 -haloalkoxy-, nitro- or cyano-substituted phenyl or
- 25 R^{17} and R^{18} together with the carbon atom to which they are attached represent a carbonyl group or represent optionally halogen-, C_1 - C_4 -alkyl- or C_1 - C_4 -alkoxy-substituted C_5 - C_7 -cycloalkyl in which optionally one methylene group is replaced by oxygen or sulphur,
- 30 R^{19} and R^{20} independently of one another represent C_1 - C_{10} -alkyl, C_2 - C_{10} -alkenyl, C_1 - C_{10} -alkoxy, C_1 - C_{10} -alkylamino, C_3 - C_{10} -alkenylamino, di- $(C_1$ - C_{10} -alkyl)-amino or di- $(C_3$ - C_{10} -alkenyl)amino.

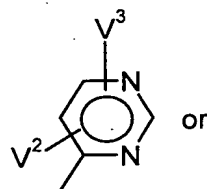
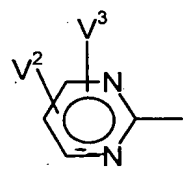
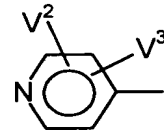
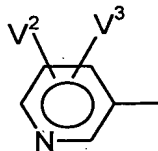
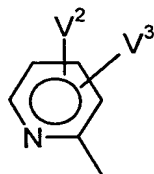
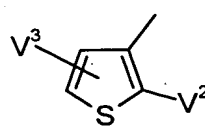
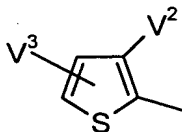
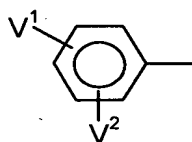
3. Compounds of the formula (I) according to Claim 1 in which

W represents hydrogen, fluorine, chlorine, bromine, methyl, ethyl, methoxy or ethoxy,

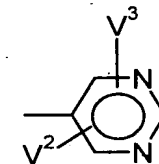
5 X represents fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₃-C₄-alkenyloxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, C₃-C₄-haloalkenyloxy, nitro or cyano,

Y represents hydrogen, fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₂-haloalkyl, C₁-C₄-alkoxy or C₁-C₂-haloalkoxy,

Z represents one of the radicals



or



10 V¹ represents fluorine, chlorine, bromine, C₁-C₆-alkyl, C₁-C₄-alkoxy, C₁-C₄-alkylthio, C₁-C₄-alkylsulphonyl, C₁-C₂-haloalkyl, C₁-C₂-haloalkoxy, nitro, cyano or represents phenyl, phenoxy, phenoxy-C₁-C₂-alkyl, phenyl-C₁-C₂-alkoxy, phenylthio-C₁-C₂-alkyl or phenyl-C₁-C₂-alkylthio, each of which is optionally
15 mono- or disubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₂-haloalkyl, C₁-C₂-haloalkoxy, nitro or cyano,

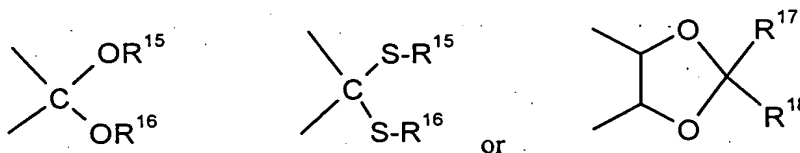
V² and V³ independently of one another represent hydrogen, fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₂-haloalkyl or C₁-C₂-haloalkoxy,

A represents C₁-C₆-alkyl, C₃-C₆-alkenyl or C₃-C₆-cycloalkyl,

D represents hydrogen, C₁-C₆-alkyl or C₃-C₆-alkenyl,

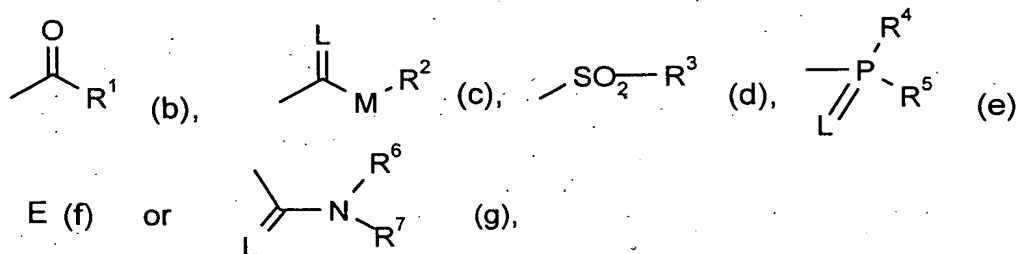
A and D together represent optionally substituted C₄-C₅-alkanediyl in which optionally one methylene group may be replaced by a carbonyl group, oxygen or sulphur, possible substituents being hydroxyl, C₁-C₆-alkyl, C₁-C₄-alkoxy or a further C₁-C₄-alkanediyl grouping, or

which optionally contains one of the following groups



or represent C₃-alkanediyl which is optionally mono- or disubstituted by fluorine, chlorine, trifluoromethyl, methyl, ethyl or methoxy,

G represents hydrogen (a) or represents one of the groups



in which

E represents a metal ion or an ammonium ion,

L represents oxygen or sulphur and

M represents oxygen or sulphur,

R¹ represents C₁-C₈-alkyl, C₂-C₈-alkenyl, C₁-C₄-alkoxy-C₁-C₂-alkyl, C₁-C₄-alkylthio-C₁-C₂-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine, or represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl or C₁-C₂-alkoxy and in which optionally one or two not directly adjacent ring members are replaced by oxygen,

represents phenyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₂-haloalkyl or

C₁-C₂-haloalkoxy,

R² represents C₁-C₈-alkyl, C₂-C₈-alkenyl or C₁-C₄-alkoxy-C₂-C₄-alkyl, each of which is optionally mono- to trisubstituted by fluorine,

represents C₃-C₆-cycloalkyl which is optionally monosubstituted by C₁-C₂-alkyl or C₁-C₂-alkoxy or

represents phenyl or benzyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C₁-C₄-alkyl, C₁-C₃-alkoxy, trifluoromethyl or trifluoromethoxy,

R³ represents C₁-C₆-alkyl which is optionally mono- to trisubstituted by fluorine or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,

R⁴ represents C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino, C₁-C₆-alkylthio, C₃-C₄-alkenylthio, C₃-C₆-cycloalkylthio, each of which is optionally mono- to trisubstituted by fluorine, or represents phenyl, phenoxy or phenylthio, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, nitro, cyano, C₁-C₃-alkoxy, C₁-C₃-haloalkoxy, C₁-C₃-alkylthio, C₁-C₃-haloalkylthio, C₁-C₃-alkyl or trifluoromethyl,

R⁵ represents C₁-C₆-alkoxy or C₁-C₆-alkylthio,

R⁶ represents hydrogen, represents C₁-C₆-alkyl, C₃-C₆-cycloalkyl, C₁-C₆-alkoxy, C₃-C₆-alkenyl, C₁-C₆-alkoxy-C₁-C₄-alkyl, each of which is optionally mono- to trisubstituted by fluorine, represents phenyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, trifluoromethyl, C₁-C₄-alkyl or C₁-C₄-alkoxy, represents benzyl which is optionally monosubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, trifluoromethyl or C₁-C₄-alkoxy,

R⁷ represents C₁-C₆-alkyl, C₃-C₆-alkenyl or C₁-C₆-alkoxy-C₁-C₄-alkyl,

R⁶ and R⁷ together represent a C₄-C₅-alkylene radical which is optionally mono- or disubstituted by methyl or ethyl and in which optionally one methylene group is replaced by oxygen or sulphur,

R¹⁵ and R¹⁶ are identical and represent C₁-C₄-alkyl,

R¹⁵ and R¹⁶ together represent a C₂-C₃-alkanediyl radical which is optionally mono- or disubstituted by methyl, ethyl, propyl or isopropyl,

R¹⁷ and R¹⁸ independently of one another represent hydrogen, represent methyl, ethyl, propyl, isopropyl, butyl, isobutyl or tert-butyl, each of which is optionally mono- to trisubstituted by fluorine and/or chlorine or

R¹⁷ and R¹⁸ together with the carbon to which they are attached represent a carbonyl group or represent optionally methyl-, ethyl-, methoxy- or ethoxy-substituted C₅-C₆-cycloalkyl in which optionally one methylene group is replaced by oxygen.

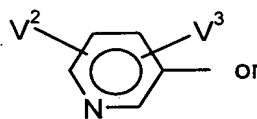
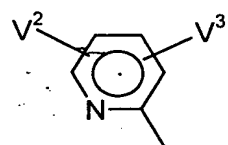
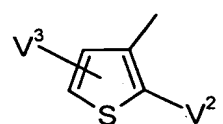
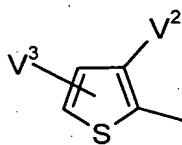
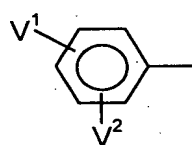
4. Compounds of the formula (I) according to Claim 1 in which

W represents hydrogen, methyl, ethyl or chlorine,

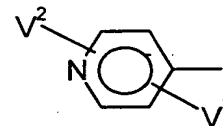
X represents chlorine, methyl, ethyl, propyl, methoxy, ethoxy, propoxy or trifluoromethyl,

Y represents hydrogen, chlorine or methyl,

Z represents one of the radicals



or



V¹ represents fluorine, chlorine, bromine, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, tert-butyl, methoxy, ethoxy, n-propoxy, isopropoxy, trifluoromethyl, trifluoromethoxy, SO₂C₂H₅, SCH₃, phenoxy, nitro or cyano,

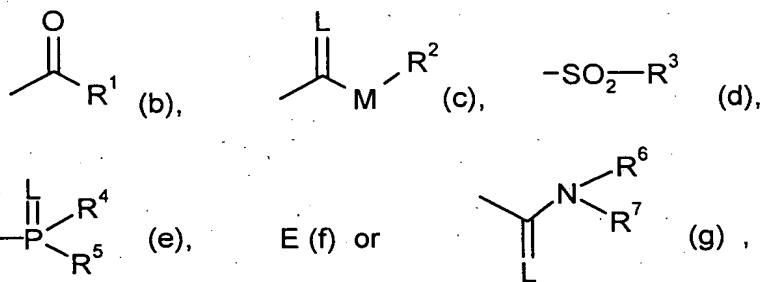
V² and V³ independently of one another represent hydrogen, fluorine, chlorine, methyl, methoxy or trifluoromethyl,

A represents methyl, ethyl, propyl or butyl,

D represents hydrogen, methyl or ethyl,

A and D together represent optionally substituted C₄-C₅-alkanediyl in which optionally one methylene group is replaced by oxygen or sulphur and which is optionally substituted by hydroxyl, methyl, ethyl, methoxy, ethoxy or by a further C₁-C₄-alkanediyl grouping or represent C₃-alkanediyl which is optionally mono- or disubstituted by fluorine, methyl, trifluoromethyl or methoxy,

G represents hydrogen (a) or represents one of the groups



in which

E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur and

M represents oxygen or sulphur,

R¹ represents C₁-C₆-alkyl, C₂-C₆-alkenyl, C₁-C₂-alkoxy-C₁-alkyl, C₁-C₂-alkylthio-C₁-alkyl, each of which is optionally mono- to trisubstituted by fluorine, or represents cyclopropyl or cyclohexyl, each of which is optionally monosubstituted by fluorine, chlorine, methyl or methoxy,

represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, cyano, nitro, methyl, methoxy, trifluoromethyl or trifluoromethoxy,

R² represents C₁-C₈-alkyl, C₂-C₆-alkenyl or C₁-C₄-alkoxy-C₂-C₃-alkyl, each of which is optionally monosubstituted by fluorine,

or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, cyano, nitro, methyl, ethyl, n-propyl, i-propyl, methoxy, ethoxy, trifluoromethyl or trifluoromethoxy,

R³ represents methyl, ethyl, n-propyl, isopropyl, each of which is optionally mono- to trisubstituted by fluorine, or represents phenyl or benzyl, each of which is

optionally monosubstituted by fluorine, chlorine, bromine, methyl, tert-butyl, methoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,

R⁴ represents C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-alkylamino, di-(C₁-C₄-alkyl)amino, C₁-C₄-alkylthio, each of which is optionally mono- to trisubstituted by fluorine, or represents phenyl, phenoxy or phenylthio, each of which is optionally monosubstituted by fluorine, chlorine, bromine, nitro, cyano, C₁-C₂-alkoxy, C₁-C₂-fluoroalkoxy, C₁-C₂-alkylthio, C₁-C₂-fluoroalkylthio or C₁-C₃-alkyl,

R⁵ represents methoxy, ethoxy, propoxy, butoxy, methylthio, ethylthio, propylthio or butylthio,

R⁶ represents hydrogen, represents C₁-C₄-alkyl, C₃-C₆-cycloalkyl, C₁-C₄-alkoxy, C₃-C₄-alkenyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, each of which is optionally mono- to trisubstituted by fluorine, represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, trifluoromethyl, methyl or methoxy, represents benzyl which is optionally monosubstituted by fluorine, chlorine, bromine, methyl, trifluoromethyl or methoxy,

R⁷ represents methyl, ethyl, propyl, isopropyl, butyl, isobutyl or allyl,

R⁶ and R⁷ represent a C₄-C₅-alkylene radical in which optionally one methylene group is replaced by oxygen or sulphur.

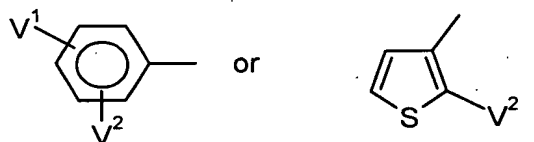
5. Compounds of the formula (I) according to Claim 1 in which

W represents hydrogen or methyl,

X represents chlorine or methyl,

Y represents hydrogen or methyl,

Z represents one of the radicals



V¹ represents fluorine, chlorine, methyl, isopropyl, methoxy, trifluoromethyl, trifluoromethoxy, SO₂C₂H₅, SCH₃, phenoxy or nitro,

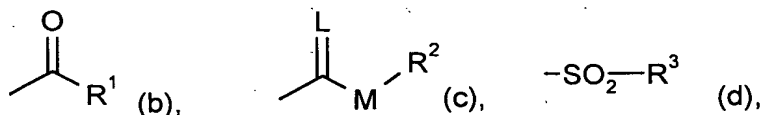
V² represents hydrogen, fluorine, chlorine or trifluoromethyl,

A represents methyl or ethyl,

D represents methyl or ethyl,

A and D together represent optionally substituted C₄-C₅-alkanediyl in which optionally one methylene group is replaced by oxygen and which is optionally substituted by a further C₁-C₂-alkanediyl grouping, or represents C₃-alkanediyl which is optionally mono- or disubstituted by fluorine, methyl or trifluoromethyl,

G represents hydrogen (a) or represents one of the groups



in which

L represents oxygen and

M represents oxygen,

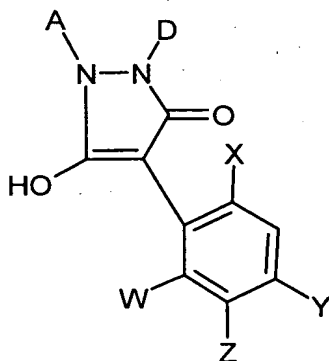
R¹ represents C₁-C₆-alkyl or cyclopropyl,

R² represents C₁-C₈-alkyl or C₁-C₄-alkoxy-C₂-C₃-alkyl,

R³ represents methyl, ethyl or isopropyl.

6. A process for preparing compounds of the formula (I) according to Claim 1, characterized in that, to obtain

(A) compounds of the formula (I-a)

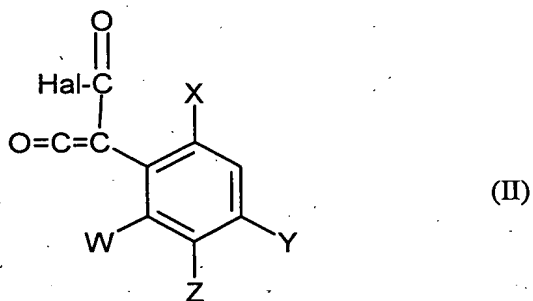


(I-a)

in which

A, D, W, X, Y and Z are as defined above,

(α) halochlorocarbonyl ketones of the formula (II)



5 in which

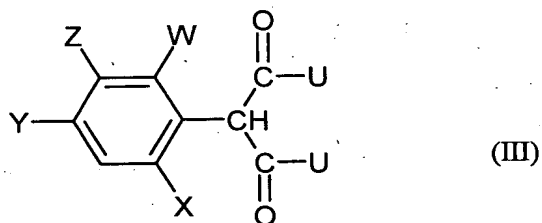
W, X, Y and Z are as defined above

and

Hal represents halogen,

or

10 (β) malonic acid derivatives of the formula (III)



in which

W, X, Y and Z are as defined above and

U represents NH₂ or C₁-C₈-alkoxy

15 are reacted with hydrazines of the formula (IV)

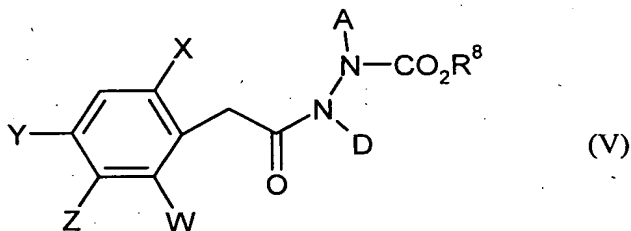


in which

A and D are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of a base, or

5 γ) - compounds of the formula (V)



in which

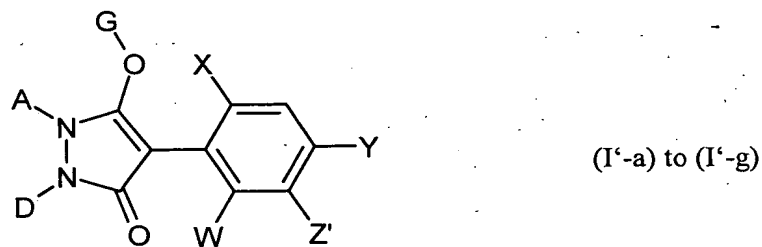
A, D, W, X, Y and Z are as defined above and

R^8 represents C_1 - C_8 -alkyl,

10

are reacted, if appropriate in the presence of a diluent and if appropriate in the presence of a base,

(B) compounds of the formulae (I-a) to (I-g) shown above in which A, D, G, W, X, Y and Z are as defined above, compounds of the formulae (I'-a) to (I'-g)



15

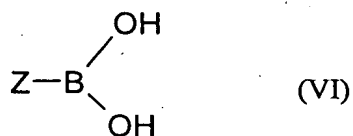
in which

A, D, G, W, X and Y are as defined above and

Z' represents chlorine, bromine, iodine,

are reacted with boronic acids of the formula (VI)

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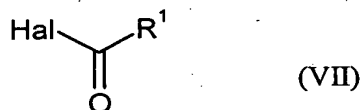
in which

Z is as defined above

in the presence of a solvent, a base and a catalyst, suitable catalysts being, in particular, palladium complexes,

- (C) compounds of the formula (I-b) shown above in which A, D, R¹, W, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, D, W, X, Y and Z are as defined above are in each case reacted

- (α) with acid halides of the formula (VII)



in which

R¹ is as defined above and

Hal represents halogen

or

- (β) with carboxylic anhydrides of the formula (VIII)



in which

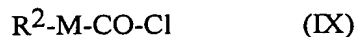
R¹ is as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

- (D) compounds of the formula (I-c) shown above in which A, D, R², M, W, X, Y and Z are as defined above and L represents oxygen, compounds of the formula (I-a)

shown above in which A, D, W, X, Y and Z are as defined above are in each case reacted

with chloroformic esters or chloroformic thioesters of the formula (IX)



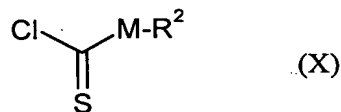
5 in which

R^2 and M are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder;

10 (E) compounds of the formula (I-c) shown above in which A, D, R^2 , M, W, X, Y and Z are as defined above and L represents sulphur, compounds of the formula (I-a) shown above in which A, D, W, X, Y and Z are as defined above are in each case reacted

with chloromonothioformic esters or chlorodithioformic esters of the formula (X)



15 in which

M and R^2 are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder

and

20 (F) compounds of the formula (I-d) shown above in which A, D, R^3 , W, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, D, W, X, Y and Z are as defined above are in each case reacted

with sulphonyl chlorides of the formula (XI)

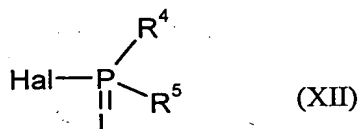


in which

R^3 is as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

- 5 (G) compounds of the formula (I-e) shown above in which A, D, L, R^4 , R^5 , W, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, D, W, X, Y and Z are as defined above are in each case reacted with phosphorus compounds of the formula (XII)



10

in which

L, R^4 and R^5 are as defined above and

Hal represents halogen,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

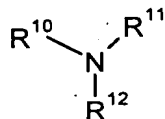
15

- (H) compounds of the formula (I-f) shown above in which A, D, E, W, X, Y and Z are as defined above, compounds of the formula (I-a) in which A, D, W, X, Y and Z are as defined above are in each case reacted

with metal compounds or amines of the formulae (XIII) or (XIV), respectively



(XIII)



(XIV)

20

in which

Me represents a mono- or divalent metal,

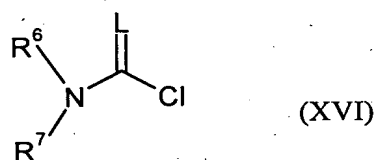
t represents the number 1 or 2 and

(I) compounds of the formula (I-g) shown above in which A, D, L, R⁶, R⁷, W, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, D, W, X, Y and Z are as defined above are in each case reacted

$$R^6-N=C=L \quad (XV)$$

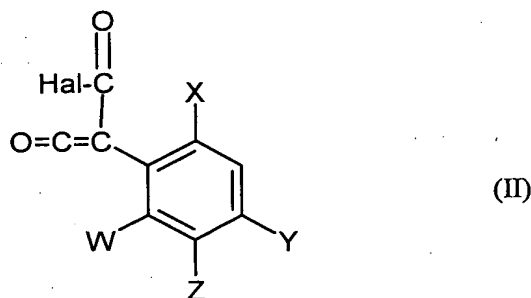
R^6 and L are as defined above,

(B) with carbamoyl chlorides or thiocarbamoyl chlorides of the formula (XVI)



L , R^6 and R^7 are as defined above,

7. Compounds of the formula (II)



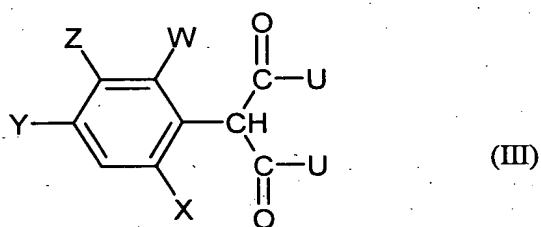
in which

W, X, Y and Z are as defined above

and

Hal represents halogen.

5 8. Compounds of the formula (III)

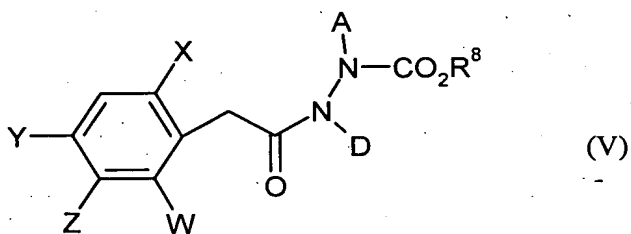


in which

W, X, Y and Z are as defined above and

U represents NH_2 or $\text{C}_1\text{-C}_8\text{-alkoxy}$.

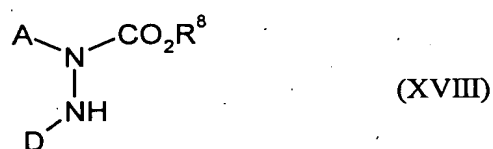
10 9. Compounds of the formula (V)



in which

A, D, W, X, Y, Z and R^8 are as defined above.

10. Compounds of the formula (XVIII)

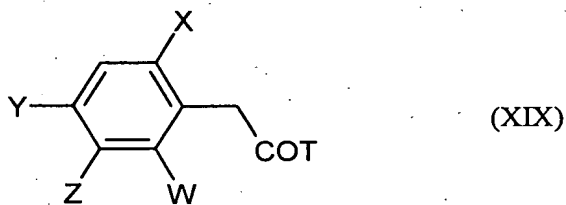


15

in which

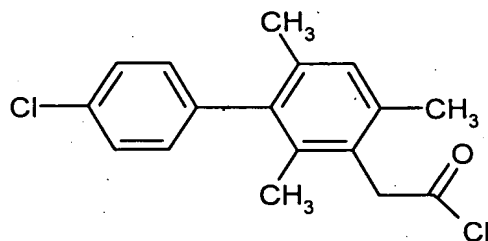
A, R⁸ and D are as defined above.

11. Compounds of the formula (XIX)

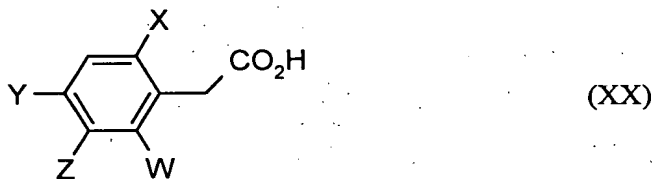


in which

5. W, X, Y, Z and T are as defined above, except for the compound

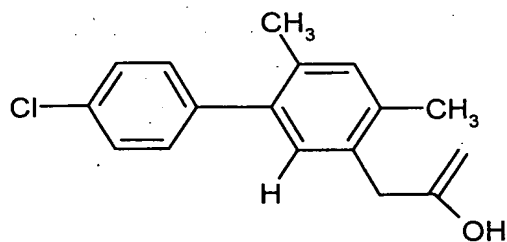


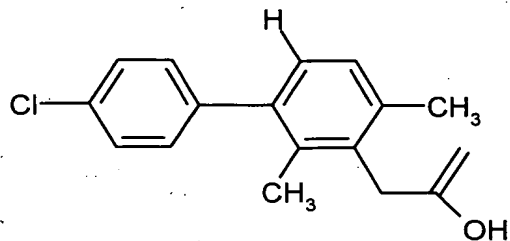
12. Compounds of the formula (XX)



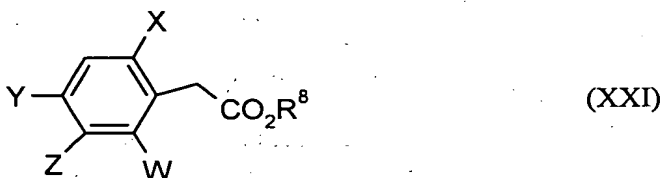
in which

10. W, X, Y, Z and T are as defined above, except for the compounds



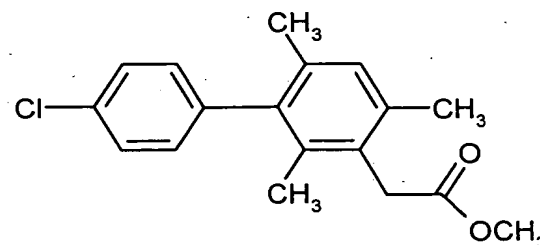
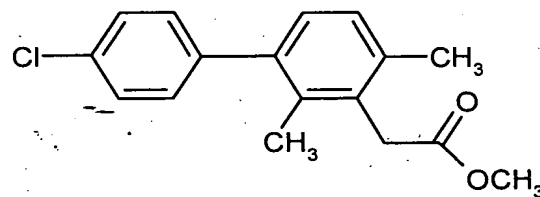
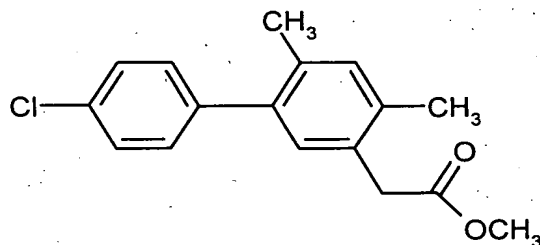


13. Compounds of the formula (XXI)



in which

- 5 W, X, Y, Z and R⁸ are as defined above, except for the compounds



- 10 14. Compositions for controlling pests, unwanted vegetation and/or unwanted microorganisms, characterized in that they comprise at least one compound of the formula (I) according to Claim 1.

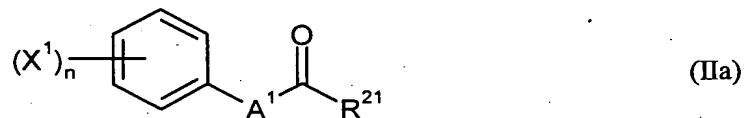
15. Method for controlling animal pests, unwanted vegetation and/or unwanted microorganisms, characterized in that compounds of the formula (I) according to Claim 1 are allowed to act on pests, unwanted vegetation, unwanted microorganisms and/or their habitat.
- 5 16. Use of compounds of the formula (I) according to Claim 1 for controlling animal pests, unwanted vegetation and/or unwanted microorganisms.
17. Process for preparing compositions for controlling pests, unwanted vegetation and/or unwanted microorganisms, characterized in that compounds of the formula (I) according to Claim 1 are mixed with extenders and/or surfactants.
- 10 18. Use of compounds of the formula (I) according to Claim 1 for preparing compositions for controlling pests, unwanted vegetation and/or unwanted microorganisms.
19. Compositions, comprising an effective amount of an active compound combination comprising, as components,
 - (a') at least one compound of the formula (I) in which A, D, G, W, X, Y and Z are as defined above
 - 15 and
 - (b') at least one crop plant compatibility-improving compound from the following group of compounds:

4-dichloroacetyl-1-oxa-4-azaspiro[4.5]decane (AD-67, MON-4660), 1-dichloroacetylhexahydro-3,3,8a-trimethylpyrrolo[1,2-a]pyrimidin-6(2H)-one (dicyclonon, BAS-145138), 4-dichloroacetyl-3,4-dihydro-3-methyl-2H-1,4-benzoxazine (benoxacor), 1-methylhexyl 5-chloroquinoline-8-oxyacetate (cloquintocet-mexyl - cf. also related compounds in EP-A-86750, EP-A-94349, EP-A-191736, EP-A-492366), 3-(2-chlorobenzyl)-1-(1-methyl-1-phenylethyl)urea (cumyluron), α -(cyanomethoximino)phenylacetoneitrile (cyometrinil), 2,4-dichlorophenoxyacetic acid (2,4-D), 4-(2,4-dichlorophenoxy)butyric acid (2,4-DB), 1-(1-methyl-1-phenylethyl)-3-(4-methylphenyl)urea (daimuron, dymron), 3,6-dichloro-2-methoxybenzoic acid (dicamba), S-1-methyl 1-phenylethyl piperidine-1-thiocarboxylate (dimepiperate), 2,2-dichloro-N-(2-oxo-2-(2-propenylamino)ethyl)-N-(2-propenyl)-acetamide (DKA-24), 2,2-dichloro-N,N-di-2-propenylacetamide (dichlormid), 4,6-dichloro-2-phenylpyrimidine (fencloirim), ethyl 1-(2,4-dichlorophenyl)-5-trichloromethyl-1H-1,2,4-triazole-3-carboxylate (fenchlorazole-ethyl - cf. also related compounds
- 20
- 25
- 30

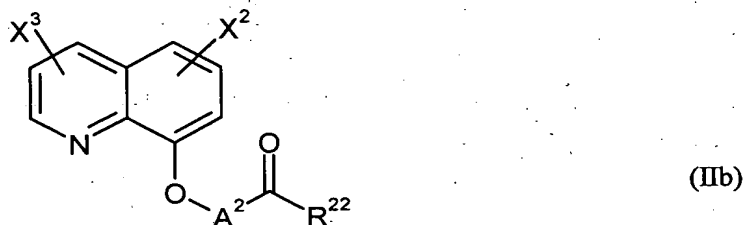
in EP-A-174562 and EP-A-346620), phenylmethyl 2-chloro-4-trifluoromethylthiazole-5-carboxylate (flurazole), 4-chloro-N-(1,3-dioxolan-2-yl-methoxy)- α -trifluoroacetophenone oxime (fluxofenim), 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyloxazolidine (furilazole, MON-13900), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazolecarboxylate (isoxadifen-ethyl - cf. also related compounds in WO-A-95/07897), 1-(ethoxycarbonyl)-ethyl 3,6-dichloro-2-methoxybenzoate (lactidichlor), (4-chloro-o-tolyloxy)acetic acid (MCPA), 2-(4-chloro-o-tolyloxy)propionic acid (mecoprop), diethyl 1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-dicarboxylate (mefenpyr-diethyl -cf. also related compounds in WO-A-91/07874), 2-dichloromethyl-2-methyl-1,3-dioxolane (MG-191), 2-propenyl-1-oxa-4-azaspiro[4.5]decane-4-carbodithioate (MG-838), 1,8-naphthalic anhydride, α -(1,3-dioxolan-2-ylmethoximino)phenylacetonitrile (oxabetrinil), 2,2-dichloro-N-(1,3-dioxolan-2-yl-methyl)-N-(2-propenyl)acetamide (PPG-1292), 3-dichloroacetyl-2,2-dimethyloxazolidine (R-28725), 3-dichloroacetyl-2,2,5-trimethyloxazolidine (R-29148), 4-(4-chloro-o-tolyl)butyric acid, 4-(4-chlorophenoxy)butyric acid, diphenylmethoxyacetic acid, methyl diphenylmethoxyacetate, ethyl diphenylmethoxyacetate, methyl 1-(2-chlorophenyl)-5-phenyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-methyl-1H-pyrazol-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-isopropyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-(1,1-dimethylethyl)-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-phenyl-1H-pyrazole-3-carboxylate (cf. also related compounds in EP-A-269806 and EP-A-333131), ethyl 5-(2,4-dichlorobenzyl)-2-isoxazoline-3-carboxylate, ethyl 5-phenyl-2-isoxazoline-3-carboxylate, ethyl 5-(4-fluorophenyl)-5-phenyl-2-isoxazoline-3-carboxylate (cf. also related compounds in WO-A-91/08202), 1,3-dimethylbut-1-yl 5-chloroquinoline-8-oxyacetate, 4-allyloxybutyl 5-chloroquinoline-8-oxyacetate, 1-allyloxyprop-2-yl 5-chloroquinoline-8-oxyacetate, methyl 5-chloroquinoxaline-8-oxyacetate, ethyl 5-chloroquinoline-8-oxyacetate, allyl 5-chloroquinoxaline-8-oxyacetate, 2-oxoprop-1-yl 5-chloroquinoline-8-oxyacetate, diethyl 5-chloroquinoline-8-oxymalonate, diallyl 5-chloroquinoxaline-8-oxymalonate, diethyl 5-chloroquinoline-8-oxymalonate (cf. also related compounds in EP-A-582198), 4-carboxychroman-4-ylacetic acid (AC-304415, cf. EP-A-613618), 4-chlorophenoxyacetic acid, 3,3'-dimethyl-4-methoxybenzophenone, 1-bromo-4-chloromethylsulphonylbenzene, 1-[4-(N-2-methoxybenzoylsulphamoyl)-phenyl]-3-methylurea (also known as N-(2-methoxybenzoyl)-4-[(methylaminocarbonyl)-amino]benzenesulphonamide), 1-[4-(N-2-methoxybenzoylsulphamoyl)phenyl]-3,3-dimethylurea, 1-[4-(N-4,5-dimethylbenzoylsulphamoyl)phenyl]-3-methylurea, 1-[4-(N-naphthylsulphamoyl)phenyl]-3,3-dimethylurea, N-(2-methoxy-5-methylbenzoyl)-4-(cyclopropylaminocarbonyl)benzenesulphonamide,

and/or one of the following compounds, defined by general formulae,

of the general formula (IIa)



or of the general formula (IIb)



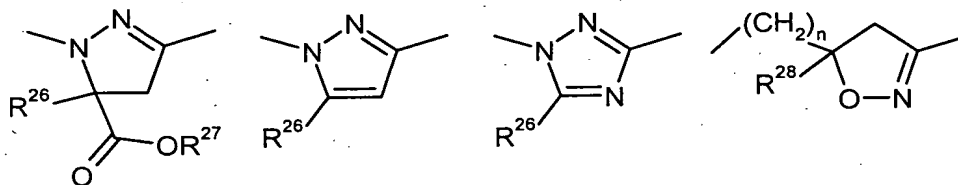
or of the formula (IIc)



where

n is a number between 0 and 5,

A¹ represents one of the divalent heterocyclic groupings shown below



n represents a number between 0 and 5,

A² represents optionally C₁-C₄-alkyl- and/or C₁-C₄-alkoxy-carbonyl-substituted alkanediyl having 1 or 2 carbon atoms,

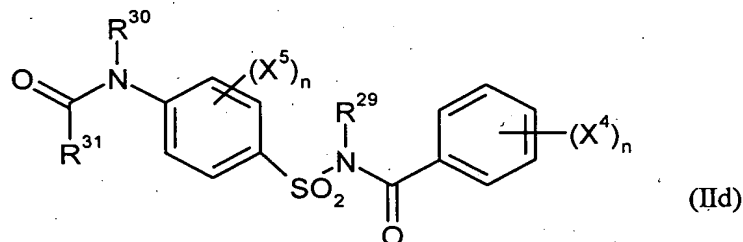
R²¹ represents hydroxyl, mercapto, amino, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-

alkylamino or di-(C₁-C₄-alkyl)-amino,

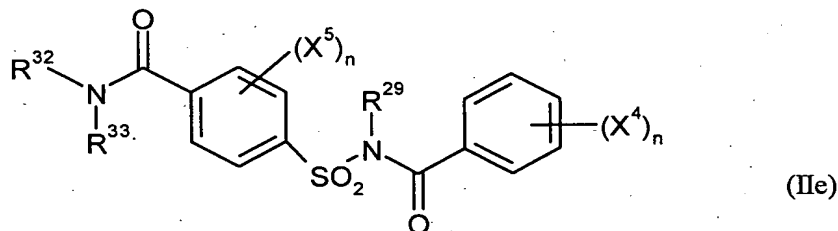
- 5 R²² represents hydroxyl, mercapto, amino, C₁-C₆-alkoxy, C₁-C₈-alkenyloxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino or di-(C₁-C₄-alkyl)-amino,
- R²³ represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₄-alkyl,
- R²⁴ represents hydrogen, in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₆-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, dioxolanyl-C₁-C₄-alkyl, furyl, furyl-C₁-C₄-alkyl, thienyl, thiazolyl, piperidinyl, or optionally fluorine-, chlorine- and/or bromine- or C₁-C₄-alkyl-substituted phenyl,
- 10 R²⁵ represents hydrogen, in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₆-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, dioxolanyl-C₁-C₄-alkyl, furyl, furyl-C₁-C₄-alkyl, thienyl, thiazolyl, piperidinyl, or optionally fluorine-, chlorine- and/or bromine- or C₁-C₄-alkyl-substituted phenyl, or together with R²⁴ represents C₃-C₆-alkanediyl or C₂-C₅-oxaalkanediyl, each of which
- 15 is optionally substituted by C₁-C₄-alkyl, phenyl, furyl, a fused benzene ring or by two substituents which, together with the C atom to which they are attached, form a 5- or 6-membered carbocycle,
- R²⁶ represents hydrogen, cyano, halogen, or represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₄-alkyl, C₃-C₆-cycloalkyl or phenyl,
- 20 R²⁷ represents hydrogen, optionally hydroxyl-, cyano-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, C₃-C₆-cycloalkyl or tri-(C₁-C₄-alkyl)-silyl,
- R²⁸ represents hydrogen, cyano, halogen, or represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₄-alkyl, C₃-C₆-cycloalkyl or phenyl,
- 25 X¹ represents nitro, cyano, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy,
- X² represents hydrogen, cyano, nitro, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy,
- X³ represents hydrogen, cyano, nitro, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy,

and/or the following compounds, defined by general formulae,

of the general formula (II_d)



or the general formula (II_e)



where

n represents a number between 0 and 5,

R^{29} represents hydrogen or C₁-C₄-alkyl,

R^{30} represents hydrogen or C₁-C₄-alkyl,

10 R^{31} represents hydrogen, in each case optionally cyano-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino or di-(C₁-C₄-alkyl)-amino, or in each case optionally cyano-, halogen- or C₁-C₄-alkyl-substituted C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio or C₃-C₆-cycloalkylamino,

15 R^{32} represents hydrogen, optionally cyano-, hydroxyl-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, in each case optionally cyano-, or halogen-substituted C₃-C₆-alkenyl or C₃-C₆-alkynyl, or optionally cyano-, halogen- or C₁-C₄-alkyl-substituted C₃-C₆-cycloalkyl,

20 R^{33} represents hydrogen, optionally cyano-, hydroxyl-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, in each case optionally cyano- or halogen-substituted C₃-C₆-

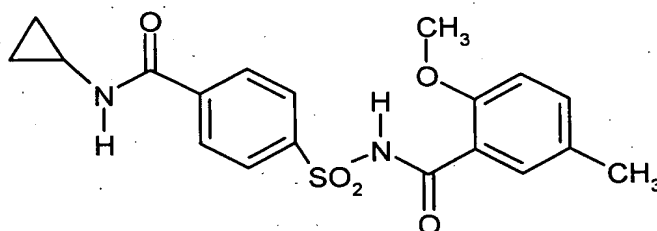
alkenyl or C₃-C₆-alkynyl, optionally cyano-, halogen- or C₁-C₄-alkyl-substituted C₃-C₆-cycloalkyl, or optionally nitro-, cyano-, halogen-, C₁-C₄-alkyl-, C₁-C₄-haloalkyl, C₁-C₄-alkoxy- or C₁-C₄-haloalkoxy-substituted phenyl, or together with R³² represents in each case optionally C₁-C₄-alkyl-substituted C₂-C₆-alkanediyl or C₂-C₅-oxaalkanediyl,

X⁴ represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy, and

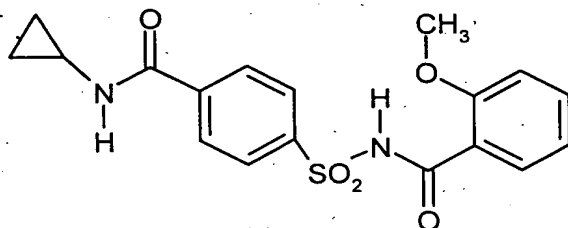
X⁵ represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy.

- 10 20. Compositions according to Claim 19, where the crop plant compatibility-improving compound is selected from the following group of compounds:

cloquintocet-mexyl, fenchlorazole-ethyl, isoxadifen-ethyl, mefenpyr-diethyl, furilazole, fencloirim, cumyluron, dymron or the compounds



15 and



21. Compositions according to Claim 19 or 20 where the crop plant compatibility-improving compound is cloquintocet-mexyl or mefenpyr-diethyl.
22. Method for controlling unwanted vegetation, characterized in that a composition according to Claim 19 is allowed to react on the plants or their habitat.
- 20 23. Use of a composition according to Claim 19 for controlling unwanted vegetation.

24. Method for controlling unwanted vegetation, characterized in that a compound of the formula (I) according to Claim 1 and the crop plant compatibility-improving compound as set forth in Claim 19 are allowed to act on the plants or their habitat separately, one soon after the other.